

ASSIGNMENT 13

Reading:

Hand & Finch:

10.4 (Introduction; Harmonic Analysis; Hysteresis)

11 (Introduction and Overview)

11.1

11.11 (Introduction; Breaking the Symmetry; Period Doubling and the Onset of Chaos)

11.13

1.

Hand & Finch, p. 403, *Question 7* (using symmetry). Note the typo in the statement of this problem: (b) should read $t \rightarrow t + \pi/\omega$, not $t \rightarrow t + \pi$.

2.

Hand & Finch Problem 10.11 (a) and (b) only (asteroid perturbed by Jupiter)

3.

Using Hand & Finch Eqs. (9.18) and (9.19), derive Eq. (9.20).

4.

Hand & Finch, p. 427, *Question 1* (Hamiltonian)

5.

Hand & Finch, p. 454, *Question 12* (phase space flow equations)

6.

Hand & Finch, p. 455, *Question 13* (symmetry breaking)